

Model 6455 Cartridge Tape System



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A Highly Flexible and
Reliable Back-Up for
Your Disks

The Kennedy Model 6455 cartridge tape system satisfies the requirements for a low cost yet flexible and reliable back-up device. The drive is a start/stop device which also has the capability of streaming data at 30 ips. This capability provides for greater flexibility, allowing the user to be able to do selective file back-ups, file restructuring, software updates, and program boots along with the ability to do a mirror mode backup of the disk.

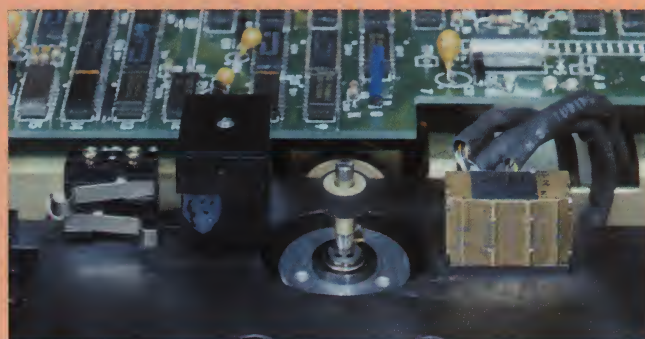
FEATURES

Packaging and Power.

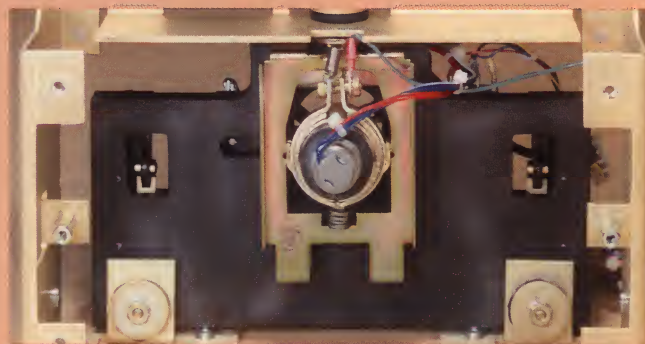


- Designed with 8 inch floppy/Winchester mounting dimensions and hole locations.
- Low power consumption — The system requires only +5 and +24 volts D.C. for a total consumption of under 45 watts.

CARTRIDGE TAPE DRIVE



- 4 track fixed serpentine recording head — with selective erase — eliminates time consuming rewinds between tracks for continuous data transfers and the selective erase provides for the ability to edit blocks.
- Recording density of 6400 bpi — yields over 21 MBytes of formatted data on a 600' tape cartridge.
- Infrared tape position detection — virtually impervious to ambient light, which is a major factor in tape position errors.



- Deck suspension — the deck plate is isolated from the rest of the chassis by shock mounts. These mounts

prevent the deck from warping if chassis is mounted in a non-true cabinet and enables the drive to withstand greater shock and vibration while operating. This helps insure data interchange.

- Any attitude mounting — The drive can be mounted at any angle or attitude because of a special pivot type motor mount.
- Group coded recording technique — provides 100% better data recovery margins than MFM recording.
- Differential read chain — improves the signal-to-noise ratio and thus the data reliability.
- Full write pre-compensation — data written on tape is fully pre-compensated to minimize pulse crowding and phase distortion effects.



- Optional front cover — has two indicators, one to indicate if the drive is ready and another to indicate if the device is active (executing a command).
- Switching bridge servo amplifier — 65% more efficient than comparable linear servo designs. Yields lower power dissipation and greater reliability.
- Servo current surge protection — turns current off to motor in case of a tape cartridge malfunction.



- Two board design — one board is an intelligent formatter and the other handles the control and read/write functions. The use of only two boards eliminates fault creating connectors.

EMBEDDED FORMATTER

- Microprocessor/bipolar sequencer architecture — the 90 I.C. formatter condenses large tape system performance into a low power 8.25" x 9.25" printed circuit board.
- Full command repertoire — utilizes the Pico Bus interface to accept a full compliment of tape cartridge commands to exploit the systems full start/stop capability.
- Automatic read thresholds — during a read retry, 3 different thresholds are automatically selected. This feature is usually found only on large 9 track transports.
- Sophisticated data recovery circuitry — the 6455 data recovery 3rd order phase lock loop has been proven highly reliable on the Model 6450 cartridge drive.
- Edit capability — ability to edit blocks of data anywhere on tape for file updates and file restructuring. There is no need to rewrite the whole track.

DIAGNOSTICS AND FAULT ISOLATORS

- Full signature analysis capability — 100% fault isolation to the faulty formatter I.C. reduces MTTR to less than thirty minutes for logic faults.
- Online self-test — The 6455 system performs online self test before your back-up operation begins.
- Offline self-test routines — a full complement of offline test routines allow adjustment of all analog functions in the cartridge drive, without the use of measurement equipment.

HOST INTERFACE

- Common host interface — The 6455 employs the Pico Bus interface. This interface is an intelligent byte wide bus which allows the user to design an inexpensive yet powerful controller capable of interfacing radially with both the Kennedy Model 7300 8" Winchester disk drive and the 6455 cartridge drive on a single PCBA.

Kennedy has been a leader in the peripherals for over seventeen years and recognizes the problems associated with backing up a disk drive. Utilizing the technology from 1/2 inch tape drives and combining this with over six years in the cartridge business, Kennedy has produced the most advanced 1/4 inch cartridge product available. The apparent, as well as the hidden cost of adding a cartridge back-up device to your system has been greatly reduced, by providing a very intelligent and sophisticated formatter, the burden is taken from the host system with the Model 6455's start/stop and gap on-the-fly capability, the need for costly system software is greatly reduced. The simple Pico Bus interface, common with Kennedy's Disks as well as future products greatly reduces the controller design. With the Kennedy common Pico Bus interface, future system expansion is insured.

Kennedy provides the smart answer in cartridge products by providing a start/stop device that acts like a streamer, greatly simplifying the controller and software consideration of system integration.

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General Specifications

Cartridge Type	3M DC300A/DC 300XL/DC600A Data Cartridge
Tape Length	300, 450 or 600 feet
Capacity Unformatted	11.5 MBytes at 300 ft. 17.3 MBytes at 450 ft. 23 MBytes at 600 ft.
Recording Density	6400 bpi
Number of Tracks	4 tracks arranged in a serpentine configuration
Recording Head	Serpentine with read after write capability and selective erase
Record Format	Self-clocking Group Coded code (GCR)
Record Mode	Single track serpentine serial
Tape Speed	30 ips
Fast Tape Motion	90 ips
Start/Stop Time	25 msec @ 30 ips, 75 msec @ 90 ips
Data Transfer Rate	192,000 bits/sec
Power Requirements	+5 Vdc +/-5% at 3 amps +24 Vdc +/-25% at 1 amp
Power Consumption	21 W idle 27 W Read/Write 39 W Rewind/Track Select
Weight	5 lbs.
Dimensions	8.5" W x 4.5" H x 14" D
Interface	
Host	Pico Bus. TTL low true, 34 pin 3M flat
Power	6 pin Molex
Operating Environment	
Ambient Temperature	+5° to +45° degree Centigrade
Relative Humidity	15% to 95% (non-condensing)
Altitude	to 30,000 ft (9120 m)
MTBF Design Goal	5,000 hrs.